



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/608,384	06/27/2003	Jeffrey W. Carr	CARR-01000us4.002	7970
7590 07/21/2006			EXAMINER	
Sheldon R. Meyer FLIESLER DUBB MEYER & LOVEJOY LLP Fourth Floor Four Embarcadero Center San Francisco, CA 94111-4156			VINH, LAN	
			ART UNIT	PAPER NUMBER
			1765	
DATE MAILED: 07/21/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/608,384

Applicant(s)

CARR, JEFFREY W.

Examiner

Lan Vinh

Art Unit

1765

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 May 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21-34 is/are allowed.
- 6) ☒ Claim(s) 1-20 and 35-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 120205.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Terminal Disclaimer***

1. The terminal disclaimer filed on 5/16/2006 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of 10/383478 has been reviewed and is accepted. The terminal disclaimer has been recorded.

### ***Response to Arguments***

2. Applicant's Terminal Disclaimer, filed 5/16/2006, with respect to the rejection of claims 1-40 under judicial nonstatutory obvious-type double patenting have been fully considered. The rejection of claims 1-40 under judicial nonstatutory obvious-type double patenting has been withdrawn. However, upon further search and consideration, a new ground of rejection of claims 1-20, 35-40 is made in view of Bohm et al DE 199 25 790

A1

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claims 1-16, 18-20, 35, 36, 37, 38-40 are rejected under 35 U.S.C 102(a) as being anticipated by Bohm et al in DE 199 25 790 A1

Bohm discloses a method of shaping an optic with a plasma torch. The comprises the steps of: positioning a workpiece and a plasma torch (fig. 1), rotating/translating the workpiece with respect to a plasma torch (section B, example 1, fig. 1), using reactive atom plasma processing to shape/remove/modify and deposit/add/redistribute material to the surface of the workpiece with the discharge from the plasma torch (Title section, fig. 1; fig. 3)

The limitation of claims 2, 5, 40 have been discussed above

Regarding claims 3-4, Bohm discloses that the removal or deposition of the substrate material caused by plasma-chemical reaction (Title section), which reads on altering the chemistry of the surface of the workpiece. Bohm is also silent about the damage to the workpiece underneath the surface

Regarding claim 6, Bohm discloses a plasma beam source fed by highly reactive form-stable (Title section). Regarding claim 7, Bohm discloses placing a discharge gas in a central channel of the plasma torch (fig. 1)

Regarding claims 8-10, 20, Bohm discloses controlling the flow of the plasma component gases into the plasma torch from between about 0ml/min to about 2,000 ml/min (Table 1). Regarding claims 11, 13, Bohm discloses introducing a plasma gas through an outer tube of the plasma torch and introducing an auxiliary gas through a second of three concentric tubes in the plasma torch (see claims 1, 18)

Regarding claims 14, 15, Bohm discloses using an auxiliary gas to keep hot plasma away from a channel of the plasma torch and to adjust the position of a discharge (see claim 1)

Art Unit: 1765

Regarding claim 16, Fig. 2 of Bohm shows that the plasma gas is introduced tangentially (see gas supply 5 in fig. 5). Regarding claim 19, Bohm discloses maintaining the processing chamber at about atmospheric pressure (see 3<sup>rd</sup> paragraph under section "Solution provided by invention")

Regarding claims 38-39, Bohm discloses using a translator/means for translating /rotating the wafer/workpiece (fig. 1), a plasma generator 2 to deposit material on the surface of the wafer/workpiece (section B, example 1), which reads on means for using reactive plasma processing to deposit material on the workpiece, a plasma jet 8/plasma torch/means for modify the surface with the discharge from the plasma torch (col 7, lines 27-30)

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bohm et al in DE 199 25 790 A1 in view of Fabel (US 4,674,683)

Bohm method has been described above. Unlike the instant claimed invention as per claim 17, Böhm does not teach maintaining the temperature of the plasma torch between 5000\* and 15,000\* C.

Fabel teaches the temperature of plasma processes (col 1, lines 25-30)

It would have been obvious to one skilled in the art to maintain the temperature of Böhm's plasma torch process to between 50000 and 15,0000 C because Fabel teaches that this is the standard temperature range for plasma processes.

#### ***Allowable Subject Matter***

7. Claims 21-34 allowed.

The following is an examiner's statement of reasons for allowance:

Regarding claim 21, the cited prior art of record fails to disclose or suggest a method for planarizing a surface of a workpiece comprises a step of using reactive atom plasma processing to redeposit the removed material on the surface of the workpiece, in combination with the rest of the limitation of claim 21.

#### ***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lan Vinh whose telephone number is 571 272 1471.

The examiner can normally be reached on M-F 8:30-5:30 PM.

Art Unit: 1765

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on 571 272 1465. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to be 'LV' followed by a stylized flourish.

LV

July 16, 2006